

Claim Amendments

What is claimed:

14. (amended) An electric motor comprising:

a first body;

a plurality of magnetic components secured to the first body and located in at least first and second circular arrangements having a common axis and magnetic field lines forming across a first gap from each magnetic component of the first arrangement to each magnetic component of the second arrangement;

a board in the first gap being of a majority of nonmagnetic solid material, a majority of the magnetic field lines passing through the substantially nonmagnetic solid material across the first gap;

at least one electrical circuit element located on the board in the first gap, the magnetic field lines passing through the electrical circuit element; and

at least a first bearing securing the board to the first body to allow the electrical circuit element to rotate along the axis of the bearing relative to the first body, the electrical circuit element having at least first and second electrical paths, the first path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes rotation thereof about the

common axis, the second path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes rotation thereof about the common axis.

15. (amended) The electric motor of claim 14 wherein the the board and the electrical circuit element form a printed circuit board.

16. The electric motor of claim 14 wherein the magnetic components are permanent magnets.

17. The electric motor of claim 14 wherein the magnetic components are electromagnets.

18.(canceled)

19. (amended) An electric motor comprising:

a first body;

a plurality of magnetic components secured to the first body and located in first and second rows substantially parallel to each other and magnetic field lines forming across a first gap from each magnetic component of the first row to each magnetic component of the second row, a board in the first gap being of a majority of nonmagnetic solid material, a majority of the magnetic field lines passing through the substantially nonmagnetic solid material across the first gap;

at least one electrical circuit element located on the board in the first gap, the magnetic field lines passing through the electrical circuit element; and
at least a first bearing securing the board to the first body to allow the electrical circuit element to move along an axis relative to the first body, the electrical circuit element having at least first and second electrical paths, the first path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes translation thereof along the common axis, the second path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes translation thereof along the common axis.

20. (amended) The electric motor of claim 19 wherein the the board and the electrical circuit element form a printed circuit board.

21. The electric motor of claim 19 wherein the magnetic components are permanent magnets.

22. The electric motor of claim 19 wherein the magnetic components are electromagnets.

23.(canceled)

Claim Amendments

What is claimed:

14. (amended) An electric motor comprising:

a first body;

a plurality of magnetic components secured to the first body and located in at

least first and second circular arrangements having a common axis and magnetic

field lines forming across a first gap from each magnetic component of the first

arrangement to each magnetic component of the second arrangement;

a board in the first gap being of a majority of nonmagnetic solid material, a

majority of the magnetic field lines passing through the substantially

nonmagnetic solid material across the first gap;

at least one electrical circuit element located on the board in the first gap, the

magnetic field lines passing through the electrical circuit element; and

at least a first bearing securing the board to the first body to allow the electrical

circuit element to rotate along the axis of the bearing relative to the first body, the

electrical circuit element having at least first and second electrical paths, the first

path having a section located in the gap and extending transverse to the

magnetic field lines so that a current therein causes rotation thereof about the

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common axis, the second path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes rotation

thereof about the common axis.

15. ~~(amended)~~ The electric motor of claim 14 wherein the the board and the electrical circuit element form a printed circuit board.

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16. The electric motor of claim 14 wherein the magnetic components are permanent magnets.

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17. The electric motor of claim 14 wherein the magnetic components are electromagnets.

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18. ~~(canceled)~~, 19. ~~(amended)~~ An electric motor comprising:

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a first body;

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a plurality of magnetic components secured to the first body and located in first and second rows substantially parallel to each other and magnetic field lines

forming across a first gap from each magnetic component of the first row to each

magnetic component of the second row, a board in the first gap being of a

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majority of nonmagnetic solid material, a majority of the magnetic field lines

passing through the substantially nonmagnetic solid material across the first gap;

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at least one electrical circuit element located on the board in the first gap, the

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magnetic field lines passing through the electrical circuit element; and

at least a first bearing securing the board to the first body to allow the electrical circuit element to move along an axis relative to the first body, the electrical circuit element having at least first and second electrical paths, the first path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes translation thereof along the common axis, the second path having a section located in the gap and extending transverse to the magnetic field lines so that a current therein causes translation thereof along the common axis.

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20. (amended) The electric motor of claim 19 wherein the the board and the electrical circuit element form a printed circuit board.

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21. The electric motor of claim 19 wherein the magnetic components are permanent magnets.

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22. The electric motor of claim 19 wherein the magnetic components are electromagnets.

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23. (canceled).

Deleted: . The electric motor of claim 22 wherein the magnetic components are secured to the first body, the first body being secured to a force reflection device. ¶